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10/761,966	01/20/2004	Dong Uk Min	51876P588	4031

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

CUTLER, ALBERT H

ART UNIT	PAPER NUMBER
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2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/761,966

Applicant(s)

MIN ET AL.

Examiner

Albert H. Cutler

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is responsive to application 10/761,966 filed on January 20, 2004. Claims 1-16 are pending in the application and have been examined by the examiner.

Information Disclosure Statement

2. The Information Disclosure Statements (IDS) mailed on January 20, 2004 and July 13, 2004 were received and have been considered by the examiner.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

5. The disclosure is objected to because of the following informalities: Lack of clarity and precision. On page 13, line 8, the number 640 should be changed to 540 in order to correspond to the figure 5. On page 14, Line 3, the number 612 should be changed to 512 in order to correspond to the figure 5.

Appropriate correction is required.

Claim Objections

6. Claims 4, 6, and 8 are objected to because of the following informalities: Lack of clarity and precision.
7. Claim 4 recites, "allowing the specific image format data and **the data** to be transmitted". It is unclear what "the data" is referring to. Please amend this claim language to improve clarity. For the sake of examination, "the data" is interpreted to refer to the image data stored in the memory. Appropriate correction is required.
8. Claim 6 recites, "allowing **the data** to be transmitted". It is unclear what "the data" is referring to. Please amend this claim language to improve clarity. For the sake of examination, "the data" is interpreted to refer to the image data stored in the memory. Appropriate correction is required.
9. Claim 8 recites, "transmitting the encoded data through **the switches based on the PC camera signal**". No "switches" or "PC camera signal" are previously recited in claim 8, or the parent claim 1. Please amend claim 8, or change its dependency in order to improve clarity. Appropriate action is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2622

11. Claims 1-10, and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lim et al.(US Patent Application Publication 2002/0113861).

Consider claim 1, Lim et al. teach:

A mobile terminal(10, 16, figure 1, figure 2) having an image processing function(paragraph 0017), comprising:

an image sensor("CMOS sensor", 128, figure 2) for obtaining an image(paragraph 0025);

an image digital processing (DSP) unit("DSP", 132, figure 2, and "CODEC", 102, figure 2) for formatting the image into specific image format data(The DSP converts the image into NTSC or PAL, and the CODEC converts(i.e. formats) the image into MPEG(i.e. specific image format data) or JPEG, paragraphs 0022 and 0025.);

an interface unit("RF Unit", 110, figure 2) for transmitting the specific image format data to an external unit(paragraph 0023); and

a control unit("Controller", 100, figure 2) for generating a control signal allowing the specific image format data(MPEG data) to be transmitted to the external unit(The controller(100) "controls an overall operation of the mobile videophone", paragraph 0022. When a user demands moving picture data(i.e. specific image format data), the controller makes the CODEC(102) compress the data, and then transmits the data(i.e. provides a control signal to a transmission unit) over the wireless internet(i.e. to an external unit), paragraph 0022. This transmission is achieved via the RF unit(110), paragraph 0023.).

Consider claim 2, and as applied to claim 1 above, Lim et al. further teach of a memory unit("Third Memory", 138, figure 2) for storing the specific image format data(The third memory is a flash memory which stores a still picture of the picture data received by the camera unit(104), paragraph 0026. Because the camera unit(104) receives still image data and moving image data, the still picture stored in memory(138) can be a still picture of the MPEG data(i.e. specific image format data), or the JPEG data, supplied by the CODEC(102), see figure 2.).

Consider claim 3, and as applied to claim 2 above, Lim et al. further teach:
the control signal includes a first control signal which controls the data stored in the memory unit to be transmitted, and a second control signal which controls the specific image format data to be transmitted(The controller supplies a control signal to the CODEC(102), telling the CODEC which data is to be transferred, still image data, or moving image data. When still image data is to be transferred(i.e. a first control signal is given by the controller), the CODEC compresses the data into JPEG, and a still image is transferred. Because a still image from the camera unit(104) is transferred, and a still image from the camera unit(104) is stored in the memory unit(138), the data to be transferred and the data stored in the memory unit are the same, and therefore, the first control signal controls the data stored in the memory unit(i.e. still image data) to be transferred. When moving image data is to be transferred(i.e. a second control

Art Unit: 2622

signal is given by the controller), the CODEC compresses the data into MPEG(i.e. specific image format data), and the MPEG data is transferred. See paragraph 0022.)

Consider claim 4, and as applied to claim 3 above, Lim et al. further teach:

a switching unit having a plurality of switches, for allowing the specific image format data(MPEG data) and the data(still image data) to be transmitted to the external unit(i.e. over the wireless internet(14), figure 1) based on the first control signal and the second control signal(The switching is done inside the CODEC(i.e. the CODEC acts as a switching unit). When the controller(100) sends a signal requesting still image data(i.e. sends the first control signal), the CODEC compresses the image data from the camera unit(104) into JPEG(i.e. a first switch is activated causing JPEG compression). When the controller(100) sends a signal requesting moving image data(i.e. sends a second control signal), the CODEC compresses the image data from the camera unit(104) into MPEG(i.e. a second switch is activated causing MPEG compression). See paragraph 0022.).

Consider claim 5, and as applied to claim 4 above, Lim et al. further teach:

the first control signal is a personal computer (PC) Link signal(The first control signal can transmit still image data from the videophone(10, 16) to a PC(12, figure1, paragraph 0018), in which case the first control signal is a PC Link signal.), and the second control signal is a PC camera signal(The second control signal can cause the

Art Unit: 2622

videophone to act as a PC camera by transmitting video from the videophone(10, 16) to a PC(12), which video is displayed on the display of the PC, paragraph 0018).

Consider claim 6, and as applied to claim 3 above, Lim et al. further teach:

a first switch for allowing the data(still image data) to be transmitted to the external unit based on the first control signal(The switching is done inside the CODEC(i.e. the CODEC acts as a switching unit). When the controller(100) sends a signal requesting still image data(i.e. sends the first control signal), the CODEC compresses the image data from the camera unit(104) into JPEG(i.e. a first switch is activated causing JPEG compression), and the data is transmitted over the wireless internet(14), paragraph 0022.); and

a second switch for allowing the specific image format data(MPEG data) to be transmitted to the external unit based on the second control signal(When the controller(100) sends a signal requesting moving image data(i.e. sends the second control signal), the CODEC compresses the image data from the camera unit(104) into MPEG(i.e. a second switch is activated causing MPEG compression) and the data is transmitted over the wireless internet(14), paragraph 0022.).

Consider claim 7, and as applied to claim 6 above, Lim et al. further teach:

the first control signal is a personal computer (PC) Link signal(The first control signal can transmit still image data from the videophone(10, 16) to a PC(12, figure1, paragraph 0018), in which case the first control signal is a PC Link signal.), and the

Art Unit: 2622

second control signal is a PC camera signal(The second control signal can cause the videophone to act as a PC camera by transmitting video from the videophone(10, 16) to a PC(12), which video is displayed on the display of the PC, paragraph 0018).

Consider claim 8, and as applied to claim 1 above, Lim et al. further teach:

the image DSP unit("DSP", 132, figure 2, and "CODEC", 102, figure 2) includes:

a YUV data processing portion(DSP, 132) for generating YUV data based on the image received from the image sensor(The DSP(132) supplies the CODEC(102) with "Y,C" data(i.e. YUV data), obtained via the image sensor, paragraph 0026.);

an image parallel processing portion for receiving the YUV data and generating preview image data based on the YUV data(A second display(118) "displays in color the still/moving image data received from the camera unit(104)" when in the camera mode, or moving picture mode, paragraph 0024.); and

an encoding unit for encoding the YUV data(CODEC(102), figure 2), generating encoded data(CODEC(102) generates MPEG or JPEG data, paragraph 0022.), and transmitting the encoded data through the switches based on the PC camera signal(The encoded MPEG data is transmitted through the switches using the PC camera signal. See claim 4 and 5 rationale.).

Consider claim 9, and as applied to claim 8 above, Lim et al. further teach:

the encoding unit(CODEC, 102) includes a Joint Photographic Coding Experts Group (JPEG) codec(see figure 2, paragraph 0022).

Consider claim 10, and as applied to claim 8 above, Lim et al. further teach:
the encoding unit(CODEC, 102) includes a Moving Picture Experts Group (MPEG) codec(see figure 2, paragraph 0022).

Consider claim 12, Lim et al. teach:

A method for performing an image processing function(paragraphs 0017-0026) in a mobile terminal(videophone, 10, 16, figure 1), comprising the steps of:

a) generating a transmission control signal according to a kind of transmission data to be transmitted(The controller provides MPEG or JPEG control signals to the CODEC based on whether still or moving picture images are to be transferred, paragraph 0022.);

b) if the transmission data is data stored in mobile terminal(i.e. if it is still image data), transmitting the data(still image data) through a switching unit to an external unit(The switching is done inside the CODEC(i.e. the CODEC acts as a switching unit). When the controller(100) sends a signal requesting still image data(i.e. sends the first control signal), the CODEC compresses the image data from the camera unit(104) into JPEG(i.e. a first switch is activated causing JPEG compression), and the data is transmitted over the wireless internet(14), paragraph 0022) based on a PC Link signal(The first control signal can transmit still image data from the videophone(10, 16) to a PC(12, figure1, paragraph 0018), in which case the first control signal is a PC Link signal.); and

Art Unit: 2622

c) if the transmission data is image data captured in an image sensor(All the transmission data is captured by the image sensor(128, figure 2), paragraph 0025.), converting the image data to YUV data(The DSP(132) supplies the CODEC(102) with "Y,C" data(i.e. YUV data), obtained via the image sensor, paragraph 0026.), encoding the YUV data to generate encoded data(CODEC(102) generates MPEG or JPEG data, paragraph 0022.) to the external unit(over the wireless internet(14, figure 1)) through the switching unit based on a PC camera signal(The encoded MPEG data is transmitted through the switches using the PC camera signal. See claim 4 and 5 rationale.).

Consider claim 13, and as applied to claim 12 above, Lim et al. further teach:

the step of d) if a preview function is selected, displaying the YUV data on a display unit(A second display(118) "displays in color the still/moving image data received from the camera unit(104)" when in the camera mode, or moving picture mode, paragraph 0024.).

Consider claim 14, Lim et al. teach:

A method of performing an image processing function(paragraphs 0017-0026) in a mobile terminal(10, 16, figure 1), comprising the steps of:

a) capturing an image(paragraph 0025);

b) formatting the image into a specific image format data(The DSP converts the image into NTSC or PAL, and the CODEC converts(i.e. formats) the image into MPEG(i.e. specific image format data) or JPEG, paragraphs 0022 and 0025.); and

c) transmitting the specific image format data to an external unit(The MPEG data is transmitted over the wireless internet(14, figure 1) to external units such as PC(12), figure 1, paragraph 0018.).

Consider claim 15, and as applied to claim 14 above, Lim et al. further teach:
the step b) includes the steps of:

converting the captured image into YUV image data(The DSP(132) supplies the CODEC(102) with "Y,C" data(i.e. YUV data), obtained via the image sensor, paragraph 0026.); and

compressing the YUV data by using a specific image codec(CODEC(102) generates MPEG or JPEG data, paragraph 0022.).

Consider claim 16, and as applied to claim 15 above, Lim et al. further teach:
the specific image format data is MPEG image data(paragraph 0022).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lim et al.(US Patent Application Publication 2002/0113861) in view of Chen(US Patent 6,647,254).

Consider claim 11, Lim et al. teach that the DSP unit(132, figure 2) contains a basic clock, as the DSP unit converts the input image signals into NTSC or PAL formats(paragraph 0025) which are transmitted over the internet(14, figure 1) and displayed(paragraph 0018). Lim et al. also teach of using USB((134, 120, figure 2, paragraph 0027) for "securing a sufficient bandwidth for transmission of moving picture data", paragraph 0033.

However, Lim et al. do not explicitly teach that the DSP unit includes a phase locked loop (PLL) for generating a USB clock for the interface unit.

Chen is similar to Lim et al. in that Chen uses USB(1, figure 1), and radio circuitry(column 1, lines 6-15). Chen is also concerned with the interaction between computers and peripheral devices, similar to Lim et al.(see column 1, lines 6-15).

Art Unit: 2622

Furthermore, Chen likewise deals with digital cameras and voice transmission(column 1, lines 16-28), analogous to the videophone of Lim et al.

In addition to the teachings of Lim et al., Chen teaches of using a phase locked loop(31, figure 1) for generating a USB clock for an interface(column 2, lines 21-36).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to include a phase locked loop for generating a USB clock for an interface as taught by Chen in the DSP unit taught by Lim et al. because USB is a future standard interface for serially connecting peripheral devices so that users may conveniently expand the equipment of a multimedia computer(Chen, column 1, lines 33-37), and a phase lock loop allows synchronization between a USB port and an interface, and control over frequency modulation based on a USB clock(Chen, column 2, lines 25-29).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert H. Cutler whose telephone number is (571)-270-1460. The examiner can normally be reached on Mon-Fri (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571)-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC


NGOC-YEN VU
SUPERVISORY PATENT EXAMINER